

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

**VIRTUAL IMMERSION
TECHNOLOGIES LLC,**

Plaintiff,

v.

GENERAL DYNAMICS CORP.

Defendant.

Civ. No. 6:20-cv-698

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Virtual Immersion Technologies LLC (“VIT” or “Plaintiff”), by and through its attorneys, hereby alleges for its Complaint on personal knowledge as to its own activities and on information and belief as to all other matters, as follows:

NATURE OF THE ACTION

1. This is an action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. § 1 *et seq.*

THE PARTIES

2. Plaintiff Virtual Immersion Technologies LLC is a limited liability company organized under the laws of the State of Texas.

3. VIT is the current assignee of United States Patent No. 6,409,599 (“the ’599 patent” or “the patent-in-suit.”) On June 25, 2002, the United States Patent and Trademark Office duly and legally issued the ’599 patent. The ’599 patent is titled “Interactive Virtual Reality Performance Theater Entertainment System.” The application leading to the ’599 patent

was filed on July 19, 1999. A true and correct copy of the '599 patent is attached hereto as Exhibit A.

4. On or around February 24, 2016, VIT acquired 100% ownership of all right, title and interest in the patent-in-suit, including the right to bring patent enforcement actions for damages accruing prior to February 24, 2016. The assignment to VIT of ownership of the patent-in-suit was recorded with the United States Patent & Trademark Office ("PTO") on or around August 26, 2016.

5. Defendant General Dynamics Corp. ("GD") is a corporation organized and existing under the laws of Delaware, with its principal place of business 12450 Fair Lakes Circle, Fairfax, VA 22033, and a regular and established place of business at 389 E Ramsey Rd., San Antonio, TX 78216.

JURISDICTION AND VENUE

6. This is an action for patent infringement arising under the patent laws of the United States, Title 35, United States Code. Jurisdiction as to these claims is conferred on this Court by 35 U.S.C. §§ 1331 and 1338(a).

7. Regarding Defendant GD, venue is proper within this District under 28 U.S.C. § 1400(b) because, on information and belief, GD maintains a regular and established place of business in this District and has committed infringing acts in this District.

8. Upon information and belief, GD is subject to this Court's general and specific personal jurisdiction because it has sufficient minimum contacts within the State of Texas and this District, pursuant to due process and/or the Texas Long-Arm Statute, because Defendant GD purposefully availed itself of the privileges of conducting business in the State of Texas and in this District, because GD regularly conducts and solicits business within the State of Texas and within this District, and because Plaintiff's causes of action arise directly from GD's business

contacts and other activities in the State of Texas and this District. Having purposefully availed itself of the privilege of conducting business within this District, GD should reasonably and fairly anticipate being brought into court here.

9. Upon information and belief, Defendant GD maintains at least one regular and established place of business in this District: at least part or all of a regional office (the “Texas Facility.”) The Texas Facility is located at 389 E Ramsey Rd., San Antonio, TX 78216, within Bexar County in this District.

10. Currently, the Texas Facility is publicly associated with GD. (Source: <https://gdmissionsystems.com/about-us/major-locations>, last accessed and downloaded July 24, 2020.) Based at least on these facts, the Texas Facility in San Antonio, Texas is believed to be a regular and established place of business that is associated directly with GD.

11. Upon information and belief, GD has committed and continues to commit acts of infringement within the state of Texas, as alleged herein. Earlier this year, in February 2020, GD announced that it had been awarded an \$883 million contract to modernize the U.S. Army Training Programs. (Source: <https://www.gd.com/Articles/2020/02/11/general-dynamics-awarded-contract-to-modernize-u-s-army-training-programs>, last accessed and downloaded July 30, 2020.) This award will be used to build upon and expand the use of “training domains such as Virtual Training Systems and Synthetic Training Environment. (*Id.*) This includes the use of virtual systems in its Live Training Transformation (LT2) products, deployed at over 300 training sites. (See source: https://gdmissionsystems.com/articles/2015/02/20/press_release_2-20-2015-army-live-training-transformation-lt2-award, last accessed and downloaded July 30, 2020.)

12. In 2019, GD made it known that it is working with the military, specifically the Army, in developing its virtual reality solutions. (*See* source: <https://twitter.com/GDMS/status/1184222138032709633> last accessed and downloaded July 30, 2020.) Additionally, in that same year, an official of the San Antonio Joint Base (“SAJB”), located in this District, note that one of the SAJB’s near term priorities included leveraging “Simulations and the Synthetic Training Environment.” (Source: <https://www.jbsa.mil/News/News/Article/1842901/rigor-by-design-hrcoe-defines-rigor-infuses-new-standards-in-training/>, last accessed and downloaded July 30, 2020.) As such, at the nearby Camp Bullis, which provides “Training Support to Joint Base San Antonio Mission Partners in order to sustain their Operational and Institutional training requirements,” has expanded its capabilities and made use of virtual reality technologies. (*See* source: <https://www.jbsa.mil/campbullis/>, last accessed and downloaded July 30, 2020.) Specifically, Camp Bullis advertises that the camp includes “[s]tate of the art training facilities, to include firing ranges, simulation facilities, maneuver lands, and other training enablers and services that fully support the training requirement of our mission partners.” (*Id.*)

13. Accordingly, because GD has been awarded a contract to develop and improve virtual reality system solutions for training purposes with the Army, describes that it works and collaborates on these solutions with the Army, and that the Army has a training camp focused on implementing state of the art technologies, including VR, within this District, it is believed GD has committed and continues to commit acts of infringement within the state of Texas, as alleged herein.

14. GD is utilizing virtual reality to “increase efficiency and safety by breaking away from screens into a hands-free, data-rich workplace,” and to realize a “a lower total cost

ownership.” (Source: <https://gdmissionsystems.com/-/media/General-Dynamics/Space-and-Intelligence-Systems/PDF/Augmented-Reality-On-The-Battlefield-Whitepaper.ashx?la=en&hash=A6702AC9E84E7B1BEF79B2291A7CF621>, last accessed and downloaded July 24, 2020.) For example, GD realizes these benefits through the use of its VR/AR headsets which has virtual reality functionality. (*See id.*) On information and belief, GD uses and develops these virtual reality technologies within the state of Texas and this District due to its ownership of the Texas Facility, its work in the AR/VR space, and collaboration with Virtual Realities, LLC (*See source: https://www.vrealities.com/about-us; https://gdmissionsystems.com/-/media/General-Dynamics/Space-and-Intelligence-Systems/PDF/Augmented-Reality-On-The-Battlefield-Whitepaper.ashx?la=en&hash=A6702AC9E84E7B1BEF79B2291A7CF621; and https://www.gd.com/Articles/2018/03/21/general-dynamics-ausa-global-force-2018-modernizing-and-equipping-army*, last accessed and downloaded July 24, 2020.)

15. As previously stated, Defendant currently uses virtual and augmented reality systems. (*See source: https://www.vrealities.com/about-us; https://gdmissionsystems.com/-/media/General-Dynamics/Space-and-Intelligence-Systems/PDF/Augmented-Reality-On-The-Battlefield-Whitepaper.ashx?la=en&hash=A6702AC9E84E7B1BEF79B2291A7CF621; and https://www.gd.com/Articles/2018/03/21/general-dynamics-ausa-global-force-2018-modernizing-and-equipping-army*, last accessed and downloaded July 24, 2020.) This technology includes an immersive virtual reality environment where participants and live performers can interact with each other and the environment via input and output devices for the performers and the participants. (*See VIT’s Claim Chart for claim 9 of the ’599 patent, Ex. B at 1-17*)

16. As detailed in the paragraphs below, Defendant utilizes a virtual reality system and practice method for participants and performers to interact in an immersive virtual reality environment, which meets all the features of the asserted claim. (*Id.* at 1-17.)

17. The Defendant's method includes providing at least one performer input and output devices in electronic communication with the virtual environment and one or more participant input and output devices in electronic communication with the virtual environment. (*Id.* at 3-14.)

18. Defendant's method provides the virtual environment, which includes a video image of one or more live performers with audio communication between the one or more live performers and one or more participants. (*Id.* at 14-15.)

19. In the Defendant's method, the one or more participants interact with the one or more live performers and the virtual environment resulting in an experience partially controlled by the one or more participants using an input device. (*Id.* at 15-17.)

20. Defendant has derived substantial revenues from its infringing acts, including those of GD occurring within Texas, including in this District.

21. GD is subject to the Court's personal jurisdiction at least due to its utilization of the virtual reality system within Texas, including in this District.

22. GD has committed such purposeful acts or transactions in Texas and this District such that it reasonably should know and expect that it could be haled into court in this State because of such activities.

23. As detailed in the paragraphs below, GD supports the creation, maintenance and utilization of an immersive virtual reality system and practice method, which permits live performers and participants to interact with each other and the environment in the United States,

including those infringing actions of GD occurring within the state of Texas, including in this District.

24. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

25. Venue is proper in this district under 28 U.S.C. § 1400(b) with respect to Defendant GD. Defendant GD maintains a regular and established place of business in this District and has committed infringing acts in this District.

26. For the above reasons, personal jurisdiction exists and venue is proper in this Court for Defendant.

COUNT I

PATENT INFRINGEMENT OF UNITED STATES PATENT NO. 6,409,599

27. Plaintiff incorporates the above paragraphs herein by reference.

28. The '599 patent relates to a system and practice method in which participants interact with a computerized environment in addition to live and/or pre-recorded performers. (*See* Ex. A at 1:20-23.)¹ The '599 patent describes and enables immersive interactive virtual reality computer systems in which participants interact with a virtual reality environment and live performers using a variety of immersion and input devices.” (*Id.* at 1:23-26.)

29. The claims of the '599 patent are directed to tangible embodiments. Claim 1, for example, is a system claim, which clearly requires a computer operating software and several input/output devices in electronic communication with an immersive virtual reality environment. (*Id.* at 16:6-22.) Claim 2, for example, expressly recites a processing device and a network

¹ Citations to patents in this Complaint refer to columns and lines within columns of any cited patent. For example, the citation referenced by this footnote refers to column 1, at lines 20 through 23, in the '599 patent.

connecting the processing device with at least some of the input/output devices. (*Id.* at 16:39-46.)

30. The claims of the '599 patent are directed at providing a unique computing solution that addresses a problem particular to computerized virtual reality systems—providing an immersive interactive virtual reality system in which there exists three-way communication among and between participants, live performers and the virtual reality environment. (*Id.* at 3:24-27.)

31. Providing an immersive interactive virtual reality system with three-way communication in the manner claimed in the '599 patent solved new challenges over the techniques and systems known in the art at the time. Thus, the claims of the '599 patent contain inventive concepts, being both novel and unconventional, which are sufficient to render the '599 patent claims to be patent-eligible.

32. Prior to the priority date of the '599 patent, in systems, such as traditional virtual reality systems, figures or objects not controlled by participants moved autonomously or, if a participant had an opportunity to interact with such objects in the virtual reality environment, the objects were limited to computer generated images and not live performers. (*Id.* at 1:57-67.)

33. Groups of participants have been entertained by graphically enhanced performers on stage or television. However, these instances occurred through non-immersion mediums without the enhancements of immersion-type devices or methods. (*Id.* at 2:5-9.)

34. Early entertainment systems, which allowed participants to interact with a host and an environment using some input device, did not operate within an immersive virtual reality environment and therefore lacked its immersive effects and their impact on participants. (*Id.* at 2:40-47.)

35. The '599 patent overcame these disadvantages by, for example, describing and enabling a system and method for delivering information “which provides three-way immersive interactive communication amongst and between” participants, an immersive environment, and live performers. (*Id.* at 2:55-57.)

36. The inventors of the claimed invention in the '599 patent changed the focus from an interaction between individual participants and computer-generated graphical objects within a virtual reality environment to a three-way communication amongst and between participants, live or pre-recorded performers, and an immersive virtual reality environment. (*Id.* at 3:11-17.) The inclusion of three-way communication results in a synergistic effect, which creates an unparalleled experience. (*Id.* at 3:18-22.)

37. Furthermore, the claimed invention of the '599 patent represents an intrinsic improvement to the underlying computer technology involved. The claimed system includes a variety of audio and video components. (*See, e.g.*, claim 1 of the '599 patent.) The variety of audio and video components enable innovative mixing and switching techniques which allows the system to present to each of the participants a virtual reality environment in which a live representation of the performers is superimposed within the environment. (*Id.* at 4:5-9.) The participants are able to view and interact with a novel display of both graphical data and live representations for an exciting experience. (*Id.* at 4:9-12.)

38. The inventors of the '599 patent took considerable personal risks to nurture and prove out the technology systems described in the '599 patent, contributing substantially to today's virtual reality industry explosion.

39. The inventors of the '599 patent have utilized the technology described by the '599 patent for more than ten years, shipping virtual reality systems to five continents and

entertaining or educating an estimated 30 million people worldwide with their immersive virtual reality live theater attractions and promotions.

40. The virtual reality theater technology created by the inventors has been recognized and awarded on an international scale, the products winning “Best New Product” and “Best of Show” at the International Association of Amusement Parks and Attractions global convention in Atlanta in November 2000, and again for ‘Best of Show’ in 2002 in Orlando, as well as national awards for graphics and creativity in the Print Media industry. The products and concepts have garnered dozens of feature articles in news media promoting clients and their products in a variety of industries.

41. The inventors of the ’599 patent continue to have a direct interest in activities related to the ’599 patent, working closely with Plaintiff to identify and evaluate entities making use of the technology claimed by the ’599 patent without permission or license thereto.

42. The inventions of the ’599 patent resolve technical problems related to virtualized interactive technology. For example, the inventions allow parties to interact in a virtual environment in real time with one or more live performers and participants, which, on information and belief, is exclusively implemented using computer technology.

43. The claims of the ’599 patent do not merely recite the performance of some method known from the pre-Internet world along with the requirement to perform it on the Internet. Instead, the claims of the ’599 patent recite inventive concepts that are rooted in computerized virtual reality technology, and overcome problems specifically arising in the realm of computerized virtual reality technologies.

44. The claims of the ’599 patent recite an invention that is not merely the routine or conventional use of computerized communication technology. Instead, the invention makes it

possible to interact with one or more live performers and/or participants in a virtualized environment, which does not require the physical presence of either the one or more performers, or participants in order for such interactions to take place. The '599 patent claims thus specify how communication input, output, and system devices are manipulated to yield a virtual, interactive experience controlled in part by one or more participants.

45. The technology claimed in the '599 patent does not preempt all ways of using interactive communications technology, nor preempt the use of any well-known communications technology, nor preempt any other well-known or prior art technology.

46. The '599 patent claims are not directed to any “method of organizing human activity,” “fundamental economic practice long prevalent in our system of commerce,” nor are any of the claims “a building block of the modern economy.”

47. The '599 patent does not take a well-known or established business method or process and “apply it to a general purpose computer.” Instead, the specific systems and processes described in the '599 patent have no direct corollary to a process that predates the advent of the Internet.

48. The '599 patent claims are directed toward a solution rooted in computer technology and uses technology, unique to computers and networks, to overcome a problem specifically arising in the realm of computerized virtual reality technologies.

49. The '599 patent claims are not directed at a mere mathematical relationship or formula.

50. The '599 patent claims cannot be performed by a human, in the human mind, or by pen and paper.

51. Accordingly, each claim of the '599 patent recites a combination of elements sufficient to ensure that the claim in practice amounts to significantly more than a patent on an ineligible concept.

52. Upon information and belief, GD directly infringes and continues to directly infringe at least claim 9 of the '599 patent, in the United States, under 35 U.S.C. § 271(a) by making, using, selling, offering to sell, importing and/or providing and/or causing to be used an interactive, real time, virtual reality systems system and its practice method, (see GD is utilizing virtual reality “reality to “increase efficiency and safety by breaking away from screens into a hands-free, data-rich workplace,” and to realize a “a lower total cost ownership,” (source: <https://gdmissionsystems.com/-/media/General-Dynamics/Space-and-Intelligence-Systems/PDF/Augmented-Reality-On-The-Battlefield-Whitepaper.ashx?la=en&hash=A6702AC9E84E7B1BEF79B2291A7CF621>, last accessed and downloaded July 24, 2020)), along with related systems and software for access and use of such systems and methods (the “Accused Instrumentalities”) as in claim 9 of the '599 patent. (See VIT’s Claim Chart for claim 9 of the '599 patent, Ex. B at 1-17.)

53. On information and belief, Defendant is a for-profit organization with revenues of approximately \$36 billion U.S.D. per year. Moreover, Defendant, its employees and/or agents make, use, sell, offer to sell, import and/or provide and/or cause to be used the Accused Instrumentalities for Defendant’s partners and customers, leading to direct or indirect revenues and profit. As one example of indirect profit, GD utilizes the system to reduce costs by eliminating physical hardware present in competing technologies. On information and belief, without the availability of infringing tools such as the Accused Instrumentalities, Defendant

would be at a disadvantage in the marketplace and would generate less revenue and profit overall.

54. In particular, claim 9 of the '599 patent generally recites a method of providing interactive communications between participants and performers comprising the steps of providing an immersive virtual reality environment; providing performer and participant input and output devices in communication with the immersive virtual reality environment; having the live performer interact with the participant and immersive virtual reality environment by including a live or prerecorded image of the live performer and audio communication between the live performer and the participant or between the participant and live performer or both; having the participant interact with the live performer producing an experience controlled by the participant and participant input device. (*Id.* at 3-17.)

55. GD provides a method of providing interactive communications between participants and performers. (*Id.* at 3-6.)

56. The method provided by GD includes providing an immersive virtual reality environment. (*Id.* at 6-8.)

57. GD's method also includes providing at least one performer input device in electronic communication with said immersive virtual reality environment. (*Id.* at 8-9.)

58. GD's method further includes providing at least one participant input device in electronic communication with said immersive virtual reality environment. (*Id.* at 9-11.)

59. Additionally, GD's method includes providing at least one performer output device in electronic communication with said immersive virtual reality environment. (*Id.* at 11-12.)

60. Defendant's method also includes providing at least one participant output device in electronic communication with said immersive virtual reality environment. (*Id.* at 12-14.)

61. The method provided by GD also includes having at least one live performer interact with at least one participant and said immersive virtual reality environment, by including with said virtual reality environment a live or prerecorded video image of said at least one live performer and audio communication between said at least one live performer and said at least one participant, or between said at least one participant and said at least one live performer, or both. (*Id.* at 14-15.)

62. GD's method also includes having at least one participant interact with at least one such live performer and said immersive virtual reality environment, thereby resulting in an experience which is in part controlled by said at least one participant and said at least one participant input device. (*Id.* at 15-17.)

63. Defendant was made aware of the '599 patent and its infringement thereof at least as early as the filing and service of this Complaint. Despite Plaintiff's notice to GD by this Complaint regarding the '599 patent, the Defendant continues to infringe the '599 patent.

64. Upon information and belief, since at least the time it received notice by this Complaint, GD's infringement has been and continues to be willful.

65. Plaintiff VIT has been harmed by each of GD's infringing activities with respect to the '599 patent.

66. VIT reserves the right to modify its infringement theories as discovery progresses in this case. It shall not be estopped for purposes of its infringement contentions or its claim constructions by the claim charts it provides with this Complaint. VIT intends the claim chart (Exhibit B) for the '599 patent to satisfy the notice requirements of Rule 8(a)(2) of the Federal

Rule of Civil Procedure. The claim chart is not VIT's preliminary or final infringement contentions or preliminary or final claim construction positions.

JURY DEMAND

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Plaintiff demands a trial by jury on all issues triable as such.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff demands judgment for itself and against Defendant as follows:

- A. An adjudication that Defendant has infringed the '599 patent;
- B. An award of damages to be paid by Defendant adequate to compensate Plaintiff for Defendant's past infringement of the '599 patent, and any continuing or future infringement through the date such judgment is entered, including interest, costs, expenses and an accounting of all infringing acts including, but not limited to, those acts not presented at trial;
- C. A declaration that this case is exceptional under 35 U.S.C. § 285, and an award of Plaintiff's reasonable attorneys' fees; and
- D. An award to Plaintiff of such further relief at law or in equity as the Court deems just and proper.

Dated: July 30, 2020

DEVLIN LAW FIRM LLC

/s/ Alex Chan

Alex Chan (Texas Bar No. 24108051)

achan@devlinlawfirm.com

Timothy Devlin (*pro hac vice* to be filed)

tdevlin@devlinlawfirm.com

Patrick R. Delaney (*pro hac vice* to be filed)

pdelaney@devlinlawfirm.com

Cory Edwards (*pro hac vice* to be filed)

cedwards@devlinlawfirm.com

1526 Gilpin Ave.

Wilmington, Delaware 19806

Telephone: (302) 449-9010

Facsimile: (302) 353-4251

Attorneys for Plaintiff

Virtual Immersion Technologies LLC